CLAIMS:

1. A method for an automatic extraction of the structure of a video sequence that corresponds to successive frames, comprising the following steps :

(1) a shot detection step, provided for detecting the boundaries between consecutive shots, a shot being a set of contiguous frames without editing effects ;

(2) a partitioning step, provided for splitting each shot into sub-entities, called micro-segments ;

(3) a clustering step, provided for creating a final hierarchical structure of the processed video sequence.

2. A method according to claim 1, wherein said shot detection step uses a similarity criterion based on a computation of the mean displaced frame difference curve and the detection of the highest peaks of said curve.

3. A method according to anyone of claims 1 and 2, ~~wherein said sub-division~~ step uses a criterion involving ~~the level~~ of homogeneity on the motion parameters of the camera ~~used~~ to generate the processed video sequence.

4. A method according to claim 3, wherein the homogeneity of a micro-segment is computed on a motion histogram, each bin of which shows the percentage of frames with a specific type of motion.

5. A method according to claim 4, wherein, if the bins of the histogram are not equal to either 1 or 0, i.e. present intermediate values indicating that a micro-segment is not perfectly homogeneous, a distance between two micro-segments is computed, based on the homogeneity of the micro-segments union, said homogeneity being itself deduced from the histogram of a micro-segment and the different motion types, the homogeneity of a shot being equal to the homogeneity of its micro-segments weighted by the length of each of them, a fusion between any pair of micro-segments being decided or not according to the value of the homogeneity of the shot with respect to a predefined threshold T(H) and

assuming that the selected micro-segments have already been merged, and such a possible merging process between micro-segments ending when there is no further pair of neighbouring micro-segments that can be merged.

6. A method for indexing data available in the form of a video sequence that corresponds to successives frames, comprising the following segmentation steps :

(1) a structuring step, provided for sub-dividing said sequence into consecutive shots and splitting each of said shots into sub-entities called micro-segments ;

(2) a clustering step, provided for creating on the basis of said segmentation a final hierarchical structure of the processed video sequence ;

(3) an indexing step, provided for adding a label to each element of said hierarchical structure.

7. A video indexing device including means for carrying out a method according to claim 6.

8. An image retrieval system including :

(1) means for carrying out a method according to claim 6, for defining in a hierarchical fashion the structure of a video sequence that corresponds to successive frames, giving an indexing label to each element of the hierarchical structure thus defined, and storing said labels ;

(2) means for performing on the basis of the stored labels any image retrieval using one or several features of said image to be retrieved.